DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR REPAIR AND RESTORATION OF THE NORTH SEVERN SHORELINE AT NAVAL SUPPORT ACTIVITY ANNAPOLIS, ANNAPOLIS, MARYLAND

Introduction

Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Department of the Navy Procedures for Implementing NEPA (32 CFR Part 775), the Department of the Navy (Navy) gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required for the proposed repair and restoration of the North Severn Shoreline at Naval Support Activity (NSA) Annapolis, in Annapolis, Maryland.

Description of the Proposed Action

NSA Annapolis is proposing to repair and restore the shoreline of the North Severn Complex along Mill Creek, Carr Creek, the Severn River, and the Chesapeake Bay. The proposal includes repair and restoration of approximately 28,000 linear feet of shoreline. Construction will likely begin in late 2015, and will be phased over a five-year period. NSA Annapolis has identified four alternative repair and restoration methods that are potentially feasible for the proposed action. The alternative method deemed most feasible will be based on site conditions, environmental impact, and practicability of implementing the repair and restoration. The project area for this EA has been divided into reaches, which are areas that have been defined geographically, as well as based on the extent of erosion and potential repair and restoration methods applicable.

Reach	Length (linear feet)	Description
A	9,160	Reach A includes the majority of the eastern and southern areas of Greenbury Point and is subject to some of the highest wave action, storm energy, and fetch in the project area, leading to extensive erosion. Portions of the eastern side of Greenbury Point included in Reach A have had some armoring placed at the toe of slope.
B	1,160	Reach B is located on the southwestern portion of Greenbury Point, which also exhibits extensive erosion; however, the wave energy and fetch is not as great as Reach A.

Reach		Length (linear feet)	Description
C		1,140	Reach C includes the shoreline outboard (on the creek side) of the berm (former dredge spoil lagoon). Reach C has been the subject of two investigations, the 2010 *Berm Rehabilitation Plan* and the 2012 *Berm Stabilization and Living Shoreline Project, Final Emergency Stabilization Work Plan*. Both reports provided plans for emergency stabilization measures to address the erosion of the berm in this reach.
D	D1	7,530	Reach D includes the shoreline of Carr Creek and has been divided into D1 and D2. Reach D1 was the subject of the *Carr Creek Shoreline Survey, Riparian Habitat Conceptual Restoration Design Report* in 2013, and Reach D2 includes the remainder of the Carr Creek shoreline adjacent and similar to D1, but not included in the survey. Carr Creek areas are experiencing erosion due to wave and storm energy and slope saturation.
	D2	1,600	
E		1,400	Reach E includes the area on the east side of the Carr Creek Marina and is also subject to high wave action, storm energy, and fetch.
F		3,510	Reach F includes Possum Point and the small boat launch and marina area in Mill Creek, which is experiencing erosion of the banks.
G		2,500	Reach G includes the remainder of the Mill Creek shoreline areas, which is experiencing erosion of the banks.
TOTAL		28,000	

Purpose and Need

The purpose of the proposed action is to repair and restore 28,000 linear feet of the North Severn Complex shoreline that have been severely damaged or made vulnerable by erosion. Shoreline erosion control measures will help to protect the loss of mission-critical areas, and reduce damage from ongoing erosion along Carr Creek, Mill Creek, the Severn River, and Chesapeake Bay shorelines of the North Severn Complex.

The proposed action is needed because significant shoreline areas are eroding, resulting in vertical embankments, threats to infrastructure, and degradation of water quality. The eastern, southern, and southwestern portions of Greenbury Point are exposed to long fetch distances in the Severn River and the Chesapeake Bay, allowing for excessive wind and high wave energy along the shorelines leading to erosion of the banks. In addition, one shoreline area of concern is a berm (former dredge spoil lagoon) at Greenbury Point constructed of soil and fortified with large concrete debris and other disposed materials. This constructed berm, which holds dredge disposal material, has been rehabilitated with a water control structure

to relieve head pressure within the dredged material area during storm events, and a small breakwater (trapezoidal riprap structures) along portions of the berm. The water control structure, which was installed in 1998, regulates the water flow from the berm across the west side of Greenbury Point during storm events. Emergency stabilization measures have been implemented to prevent the outer berm from failing and releasing contaminants contained in the dredged materials into the river. However, the berm is under threat of failure if permanent stabilization measures on the berm are not implemented. Furthermore, the proposed action is needed to maintain the safety and usefulness of the North Severn Complex mission-critical areas. The NSA Annapolis wastewater treatment plant (WWTP) is located near Carr Creek and sections of the wastewater collection system and the treated wastewater outfall are in proximity to the degrading shoreline.

Alternatives

Three action alternatives are evaluated in this EA along with the No Action Alternative. The Navy's Preferred Alternative for the proposed action is Alternative 3.

Alternative	Repair and Restoration Method by Reach
Alternative 1 - Hardened Structure/Revetment	Reaches A, B, C, D, E, F, and G - Hardened Structure/Revetment
Alternative 2 - Log Toe Stabilization	Reaches B, D, and G - Log Toe Stabilization Reaches A, E, and F - Alternative 1 Reach C - Sheet Pile
Alternative 3 - Living Shoreline (Preferred)	Reaches B, D, F, and G - Living Shoreline Reaches A and E - Alternative 1 Reach C - Alternative 2

Alternative 1 - Hardened Structure/Revetment. Alternative 1 will employ a hardened structure, or revetment, along Reaches A, B, C, D, E, F, and G. The hardened structure/revetment for this alternative includes 1) armoring of the lower portions of the slope utilizing riprap (or similar) of appropriate size; 2) a geotextile fabric underlay for stabilization and erosion control; and 3) grading of the upper portions of the embankment to a less erosive slope.

The work for the hardened structure/revetment will be accomplished either from land, in the water, or a combination of

the two depending on the land and water constraints in the various work areas.

Alternative 2 - Log Toe Stabilization. Alternative 2 will employ log toe stabilization along Reaches B, D, and G where potential wave energy is lower. Under Alternative 2, Reaches A, E, and F will be repaired using the hardened structure/revetment method, as described under Alternative 1. Reach C will be repaired using the sheet pile method.

The log toe stabilization method includes the placement of natural untreated hardwood logs at the undercut toe of slope to repair the slope toe. The logs will be anchored with rebar. This measure will also include potential grading of the upper portions of the embankment to a less erosive slope, where slope erosion is occurring.

A detailed engineering analysis conducted for Reach C, which is adjacent to the berm (former dredge spoil lagoon), determined a sheet pile structure to be the most feasible measure for this site. To strengthen the berm, sheet piles will be driven into the existing berm using an impact hammer. The berm will be back-filled using suitable fill material.

The work for log toe stabilization and the sheet pile structure will be accomplished either from on land, in the water, or a combination of the two depending on the land and water constraints of the various work areas.

Alternative 3- Living Shoreline (Preferred). Under Alternative 3, living shoreline techniques will be utilized in Reaches B, D, F, and G where potential wave energy is lower. Reaches A and E will be repaired using the hardened structure/revetment method as described under Alternative 1, and Reach C will be repaired using the sheet pile method, as described under Alternative 2. Living shoreline techniques include the use of sills, groins, or breakwaters in combination with sand, and other natural materials. Living shoreline restoration includes the installation of marsh and riparian plants for stabilization and to create/improve upland and wetland habitat. A breakwater may be installed, consisting of a trapezoidal stone structure, for the purpose of dissipating wave energy before waves reach the shore. This alternative will be utilized in areas with lower wave energy along portions of the Carr Creek and Mill Creek reaches where installation of this type of restoration measure will be most successful. This technique will also include potential grading of the upper portions of the embankment to a

less erosive slope, where appropriate. This work will be accomplished either from on land, in the water, or a combination of the two depending on the land and water constraints in the various work areas.

No Action Alternative. The No Action Alternative will maintain the status quo. Under the No Action Alternative, the repair and restoration of the shoreline of the North Severn Complex along Mill Creek, Carr Creek, the Severn River, and the Chesapeake Bay will not occur. Under this alternative, the shorelines will continue to erode and the safety and usefulness of the North Severn Complex mission-critical areas will decrease. Potential public safety risks from unstable bluffs along the shorelines and potential degradation of water quality will continue to exist.

The No Action Alternative fails to meet the purpose and need of the proposed action. However, it does provide a baseline against which to measure the potential impacts of the proposed action. Therefore, the No Action Alternative is evaluated in subsequent sections of this EA.

Environmental Effects of the Proposed Action

The following is a summary of the potential environmental impacts from implementation of the Preferred Alternative.

Geology, Topography, and Soils. Implementation of the Preferred Alternative will not result in significant impacts to geology or topography. Minor grading during site preparation for installation and construction of revetments will occur; however, the sites are mostly level and undeveloped. Soil impacts (e.g., compaction) occurring from the construction and staging activities will be minimized by proper construction management and planning. Prior to the initiation of construction, NSA Annapolis will prepare a Soil Erosion and Sediment Control Plan in accordance with Maryland soil erosion and sediment control guidelines. This site-specific plan will identify Best Management Practices (BMPs) to be implemented, with the goal of minimizing soil erosion and runoff from construction activities. BMPs could include silt fences, silt or turbidity curtains, inlet and outlet protection, erosion control matting, sediment logs, construction entrances, temporary and permanent seeding, mulching, and check dams, as well as any other measures determined appropriate for the specific site conditions.

Beneficial impacts to soils along the shoreline will be recognized and the failing berm at Reach C will be stabilized and the risk of the release of disposed dredge sediments reduced. In addition, the created marsh will help dissipate and reduce wave energy on the lower slopes and the vegetation will help stabilize the soils in place, thereby reducing erosion potential.

Therefore, implementation of the Preferred Alternative will have no significant impacts to geology, topography, and soils from shoreline repair and restoration activities.

Water Resources.

Impacts to water resources from the Preferred Alternative will be minimal. Some wetlands will be adversely affected on a temporary basis during the installation of the living shoreline with the placement of a stabilizing structure and backfill. However, wetlands will be protected through adherence to the Navy's No Net Loss policy, the Jurisdictional Determination process with the regulatory agencies, and permitting requirements that avoid and minimize adverse impacts to wetlands. Impacts to the 100-year floodplain will occur, as much of the construction will likely occur within the floodplain. However, NSA Annapolis will comply with the Department of Defense (DoD) memorandum (February 11, 2014), Executive Order (EO) 13653, and EO 11988 to minimize such impacts.. The repair and restoration of the shoreline will result in long-term benefits to water resources by reducing shoreline erosion and sedimentation. The Navy determined that the proposed action is consistent to the maximum extent practicable with Maryland's Coastal Zone Management Program and will not result in significant impacts to coastal zone resources. On March, 25, 2015, the Maryland Department of the Environment concurred with the Navy's finding, specifically review finding "R1 Consistent with Qualifying Comments (MD20150112-0024)." Therefore, there will be no significant impacts to water resources under the Preferred Alternative.

Biological Resources. Implementation of the Preferred Alternative will have short-term, localized adverse impacts to vegetation during construction activities. However, long-term beneficial impacts to vegetation will occur following completion of repair and restoration activities because shoreline erosion and sedimentation will be reduced. With implementation of appropriate sedimentation and erosion control BMPs, and terms and conditions of applicable permits, short-term, localized

impacts to shellfish, wildlife and migratory birds and their habitat will not be significant. To avoid and minimize adverse effects to the aquatic environment during anadromous fish spawning period, a restriction on in-water work will be observed between February 15 and June 15. Long-term impacts to essential fish habitat (EFH) as a result of the proposed action will be beneficial because shoreline erosion and sedimentation will be reduced, thereby improving the quality of EFH. No significant impacts to state-listed birds are expected because they are not known to nest within the project area. No impacts are anticipated to the federally- and state-listed Atlantic sturgeon, shortnose sturgeon, or sea turtles as they are highly unlikely to be present within the project area. In a letter dated December 2, 2014, the Maryland Department of Natural Resources, Wildlife Heritage Service, stated there are no State or Federal records of rare, threatened or endangered species within the boundaries of the project site as delineated. On April 2, 2015, the U.S. Fish and Wildlife Service listed the northern long-eared bat as threatened under the Endangered Species Act. There is potential habitat for the northern long-eared bat within the shoreline reaches at Greenbury Point, but there are currently no records of the species within the project area.

Terrestrial and aquatic vegetation will be temporarily affected during the installation of the living shoreline with the placement of a stabilizing structure and backfill. However, vegetation impacted by the installation of the living shoreline will be replaced with new marsh and wetland habitat behind the stabilizing structures. In response to a February 26, 2015 letter from National Marine Fisheries Service regarding impacts to EFH, the Navy will comply with the EFH conservation recommendations. Once design plans are finalized, the Navy anticipates reinitiating consultation with National Marine Fisheries Service, as necessary, to minimize potential adverse impacts.

In correspondence dated June 29, 2015, the U.S. Fish and Wildlife Service concurred with the preferred alternative. If northern long-eared bats are identified within project reaches requiring tree clearing as the project moves forward, all tree-clearing activities will be restricted to occur outside the northern long-eared bat pupping season (June 1 to July 31). Compliance with applicable regulations, permit requirements, and appropriate sediment and erosion control BMPs, will further minimize and avoid impacts to biological resources and habitat.

Therefore, there will be no significant impacts to biological resources under the Preferred Alternative.

Land Use. There is currently no developed area on the shoreline that will be impacted by the proposed shoreline repair and restoration measures. Establishment of construction staging areas, to be determined during the design phase, will result in minor, temporary impacts to land use, which will be minimized and avoided to the extent practicable. Implementation of the Preferred Alternative will be consistent with existing land use and the State of Maryland's enforceable policies. Operation of the U.S. Naval Academy (USNA) Outdoor Range facilities may also be temporarily impacted during construction activity, but construction will be planned around scheduled operation of the firing ranges to reduce such temporary impacts. Therefore, there will be no significant impacts to land use under the Preferred Alternative.

Air Quality. Air emissions associated with the proposed repair and restoration of the North Severn Shoreline are expected to be below *de minimis* levels established in the General Conformity Rule of the Clean Air Act (CAA). In addition, none of the operational air emissions will meet or exceed the thresholds of significance. The Navy has prepared a Record of Non-Applicability (RONA) for CAA conformity. Therefore, impacts to air quality from implementation of the Preferred Alternative will not be significant.

Noise. Construction activities that will impact noise levels include noise from construction equipment operating at the site and construction/delivery vehicles traveling to and from the site. Temporary and short-term noise disturbance will occur during construction; however, implementation of noise attenuation measures, such as installing portable noise barriers and working during daytime hours (between 7:00 a.m. and 10:00 p.m.) will reduce potential disturbance from noise.

Larger increases in noise levels will result during sheet pile driving activities. To minimize impacts to noise receptors during the operation of the sheet pile driving equipment, a variety of measures, such as installing portable noise barriers, using impact cushions on top of piles, and using noise bellows could be taken. Therefore, there will be no significant impacts to sensitive noise receptors from noise under the Preferred Alternative. The effects of pile driving on fish will be within regulatory thresholds and will not be significant.

Transportation. Implementation of the Preferred Alternative will require a combination of landside and waterside construction. The landside transportation impacts will include localized traffic associated with workers arriving and departing the project site, as well as the movement of materials and equipment throughout the North Severn Complex and the hauling of excavated material and the removal of other construction and demolition wastes. There will be noticeable impacts to vehicular and recreational boat traffic in the vicinity of the Reaches for the duration of the construction activities, but it is anticipated that with a coordinated schedule to minimize vehicular construction traffic during peak school hours, these impacts will be minor and will result in little inconvenience to commuters and recreational boaters. As appropriate, the Navy will coordinate with the U.S. Coast Guard to issue a Notice to Mariners when barges or other project-related vessels are in transit or in use. Therefore, there will be no significant impacts to transportation under the Preferred Alternative.

Infrastructure and Utilities. The implementation of the Preferred Alternative will have no impact on the permanent number of employees at the base and therefore will not increase the demand for utilities serving the North Severn Complex. Impacts to the utilities associated with the implementation of the Preferred Alternative are expected to be limited to impacts during construction. There will be impacts to the road infrastructure as a result of the implementation of the Preferred Alternative. Implementation of this Alternative will stabilize the eroding shorelines adjacent to the perimeter roads in Reaches A, B, D2, and E, resulting in beneficial impacts to the North Severn Complex perimeter roads that are being threatened by eroding shorelines. Therefore, implementation of the Preferred Alternative will result in beneficial impacts to infrastructure and no significant impacts to utilities.

Cultural Resources. Ten previously recorded sites that are recommended for Phase II evaluation are located in the vicinity of Reaches D1, F, and G. One National Register of Historic Places (NRHP)-eligible site, Site 18AN0944, is located within 100 feet of the proposed shoreline work in Reach D1. It is on a bluff, and the immediate area has not been affected by wave energy. There are no eligible or unevaluated archaeological sites in the vicinity of Reaches A, B, C, D2, and E.

Although implementation of Preferred Alternative is not expected to include cutting, grading, or earth moving within areas of

known archaeological sites in Reaches D1, F, and G, the Navy will prepare Archaeological Site Protection Requirements plans for Reaches D1, F, and G when the design plans are available, and submit them to the Maryland Historical Trust for review and concurrence. Therefore, with this method of treatment, there will be No Adverse Effect to NRHP-listed or eligible archaeological resources under the Preferred Alternative.

There is the potential for temporary effects to the setting of the USNA during construction from machinery and equipment operating or being stored along the shoreline, particularly related to potential in-water work. The Navy concluded, however, the effect will not be adverse to the integrity of the USNA historic district. Implementation of Preferred Alternative, therefore, is expected to have No Adverse Effect on historic architectural resources.

In a letter dated July 21, 2015, the Maryland State Historic Preservation Officer concurred with the proposed implementation of Archaeological Site Protection Requirements plans and with the Navy's finding of No Adverse Effect. Therefore, there will be no significant impacts to cultural resources under the Preferred Alternative.

Human Health and Safety. To minimize potentially significant safety hazards to construction workers and the public under the Preferred Alternative, a health and safety program will be implemented by the contractor to ensure construction workers are aware of the hazards associated with the project site and the safety measures that must be taken to prevent injury and hazardous conditions within and outside of the working environment. All hazardous materials and waste used or generated during construction activities will be managed, transported, stored, and disposed of in accordance with USNA and North Severn Integrated Contingency Plan and applicable federal, state, and local environmental and human health and safety regulations. Construction activities will have no impact on any known Installation Restoration Program sites. Prior to any soil disturbing activities within the berm area at Greenbury Point along Reach C, soil/sediment characterization will be conducted to evaluate soil/sediment quality in order to protect human health and the environment. Additionally, measures will be implemented to protect the Severn River from receiving sediments from within the lagoon during shoreline repair and restoration. Installation of the sheet piles along Reach C will result in a beneficial impact to human health and the safety by preventing release of contaminants into the Severn River. As a result,

impacts to human health and safety from the Preferred Alternative will not be significant.

Socioeconomic Resources. Under the Preferred Alternative, construction spending will result in short-term beneficial socioeconomic impacts. There will be no disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Also, the Preferred Alternative will not result in environmental health risks and safety risks that may disproportionately affect children. Therefore, there will be no significant impacts to socioeconomic resources.

Finding

Based on the analysis contained in the EA and after considering the comments received on the Draft EA, the Navy finds that implementation of the Proposed Action would not have significant or controversial adverse impacts on the human and natural environment. The Navy has determined the preparation of an EIS is not required.

The EA addressing this action is on file and interested parties may obtain a copy from: Ms. Anna Lubetski, 1314 Harwood Street SE, Building 212, Washington Navy Yard, Washington, DC 20374, or by e-mail to: anna.lubetski@navy.mil.

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Date

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